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ABSTRACT

This catalog provides descriptive material and explanations of the books, articles, and graphics included in the exhibit, as well as reproductions of an almost complete series of "Wound Man" figures. (These pictorial representations of the human body, showing ways by which it could be attacked by weapons of war, were popular in Western Europe during the late Middle Ages and the Renaissance.) Also provided are a listing of books on military medicine which are available in the USMA Library and bibliographies with references to materials on the history and evolution of military medicine and surgery, with a special list for works describing contributions of Army doctors to medicine and science.
(Author/BBM)

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An Exhibition of

Selected Landmark Books and Articles

in the

HISTORY OF MILITARY MEDICINE

Together With

A Graphic Display of

THE WOUND MAN THROUGH HISTORY

Designed and Edited by

Elizabeth Matthew Lewis, Ed D

Materials Made Available

Through the Courtesy of

Gordon E. Mestler

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UNITED STATES MILITARY ACADEMY

West Point, N. Y.

1976

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Sometimes the lives of famous men illustrate history more accurately than the theories they expound. Henry Sigerist, writing about the career of Ambroise Paré, who stands midway chronologically, between the ancients of Egypt, and Sir William Osler of this century, notes that the battlefield was the scene of many great discoveries in the treatment of the injured. Europe in Paré's time was not only the center of Renaissance thought, but of major conflict, and France was often at war. Paré was outstanding for his innovative treatment of burns and gunshot wounds and very influential because he wrote on the subject. In 1545, his first work on treatment of gunshot wounds was published, and his commonsense explanations began to counteract the "disastrous" methods then in vogue. Sigerist says

> Paré's commanding figure stands upon the threshold of modern surgery. It was thanks to him, in the main, that for several centuries France took the leadership in the field. . . . He was extremely modest, this modesty being the outcome of profound piety which was untinged by bigotry. For him, as for Paracelsus, the foundation of the healing art must be love. Again and again we find him adjuring young surgeons not to work for the sake of monetary reward, and to do their duty to the last even in hopeless cases or cases that appear hopeless. "For nature often brings things to pass which seem impossible to the surgeon." If the surgeon was successful in bringing about a cure, he must not plume himself on this, but must ascribe the happy result to God's grace. The oft-quoted saying of his "Je le pensai, Dieu le guarist," is the most signal of the great French surgeon's titles to honour, superadding to his manifold services the atmosphere of all that was best in humanism.

Sigerist, Dr. Henry E. The Great Doctors: a Biographical History of Medicine. Translated by Eden and Cedar Paul. Doubleday, Garden City, N. Y. 1933. p.117.

Installation of the Wound Man Series

(Right to Left)

Mr. Gordon E. Mestler, Organizer of the Exhibit
COL Morton A. Pfotenhaur, Commander, Medical Activities,
Surgeon, USMA
Dr. Elizabeth M. Lewis, Senior Lecturer and Fine Arts Librarian
Mr. Egon Weiss, United States Military Academy Librarian

Errata: p. iii, p. 24 COL Martin A. Pfotenhauer

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The Wound Man From Antiquity to the Present Time

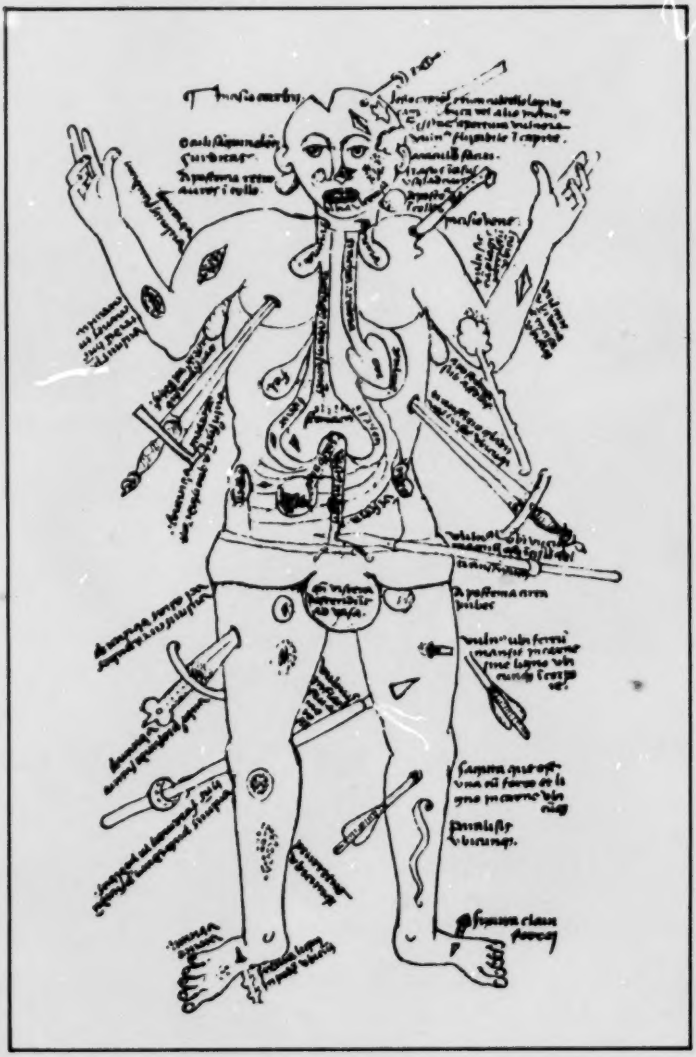
The "Wound Man" may be defined as a pictorial representation of the human body, showing the various ways by which it could be attacked, particularly by weapons of war. Such figures were popular in Western Europe during the late Middle Ages and the Renaissance. Their sudden appearance in the 14th Century coincided with a preoccupation with religious motifs, and this may have been an extension of the wounds suffered by Jesus, the Christ at His crucifixion. This was later exemplified by, for example, the arrow wounds suffered by St. Sebastian.

The series of "Wound Man" figures shown in the current display is felt to be almost complete. Known to be missing are drawings which appear in manuscripts at Erlangen, London and Oxford. The earliest classical representations were primitive in design, but such crudeness soon disappeared as more attention was given to detail and artistic rendition. The ones here displayed are arranged in a chronological sequence, and copying and imitation is easy to see. Mediums of the originals include drawings and paintings from manuscripts, woodblocks and copper engravings from book illustrations, reproduced here in photograph or other facsimile form.

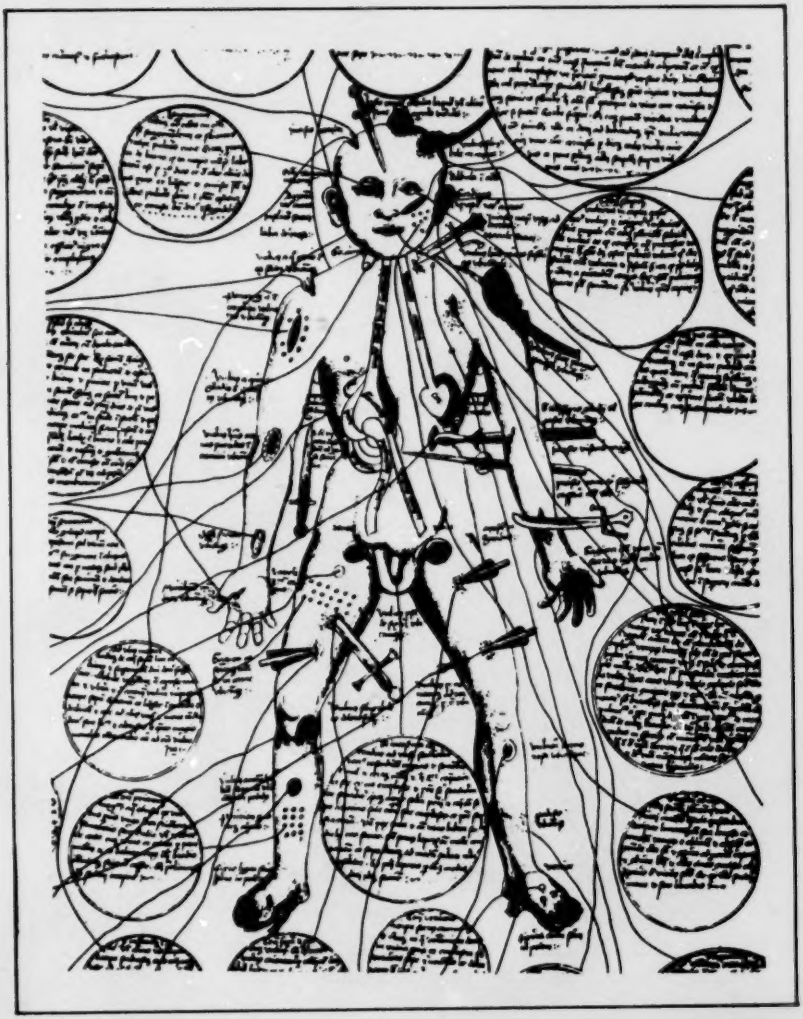
The abrupt disappearance of the classical "Wound Man" figure during the latter half of the 17th Century has not, thus far, been explained. It is unlikely that the unknown French soldier of the Napoleonic Period who sketched his own wounds, had any knowledge of the classical figures which antedated his effort by 400 years. The visual sequence could be deliberately modified to show the historical evolution of weapons of war. Toward this end, two additional drawings, originals by Miss Adrienne K. Giebel, define the Alpha and Omega of such a series.

Mr. Mestler has given us the above description of the series, and some research on the question of previous displays of this nature, makes us believe that this is probably the first time that a chronological series of the "Wound Man" graphics has been gathered for exhibition in the United States.

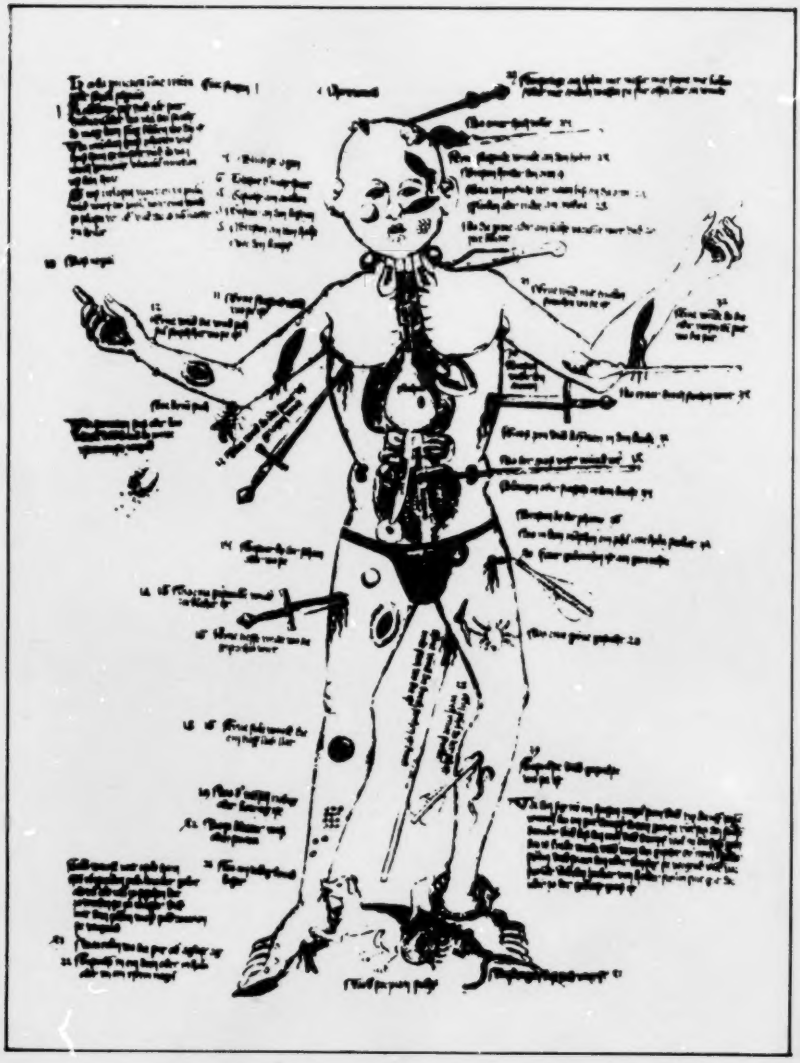
'WOUND-MAN' IN A LATIN MANUSCRIPT, PURPORTED TO BE OF THE 14th CENTURY. PHOTOGRAPHED IN THE UNIVERSITNI KNIHOVNA AT PRAGUE, WHERE THE ORIGINAL MS. IS PRESERVED. IF THE DATING IS CORRECT, IT WOULD PLACE THIS REPRESENTATION POSSIBLY EARLIER THAN THE PARIS MS. OF 1400... A UNIQUE FEATURE OF THIS PSEUDO-GALEN, Figura incisionis PORTRAYAL IS THE LACK OF WEAPONS--- THE ARTIST APPEARS TO HAVE BEEN CONTENT TO DEPICT ONLY COMMON SITES OF WOUNDS...



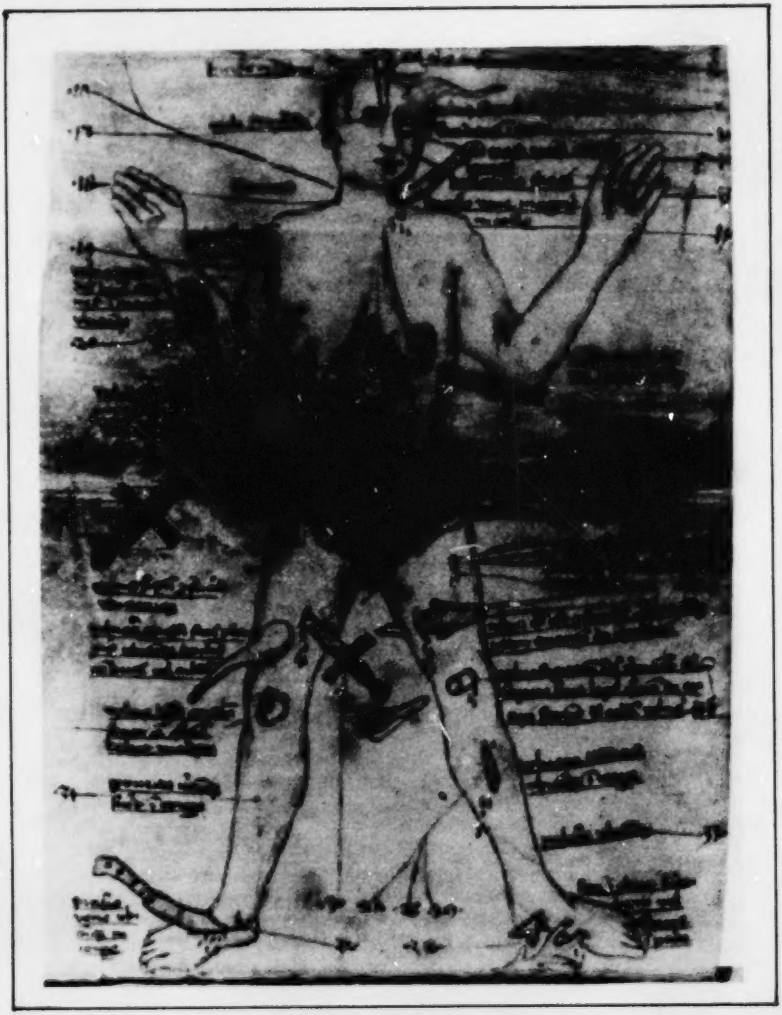
NO PICTURES OF 'WOUND-MAN' ARE KNOWN PRIOR TO THIS, THE EARLIEST OF SUCH CLASSICAL REPRESENTATIONS IN A LATIN MANUSCRIPT OF CIRCA 1400, PRESERVED IN THE BIBLIOTHÈQUE NATIONALE AT PARIS.



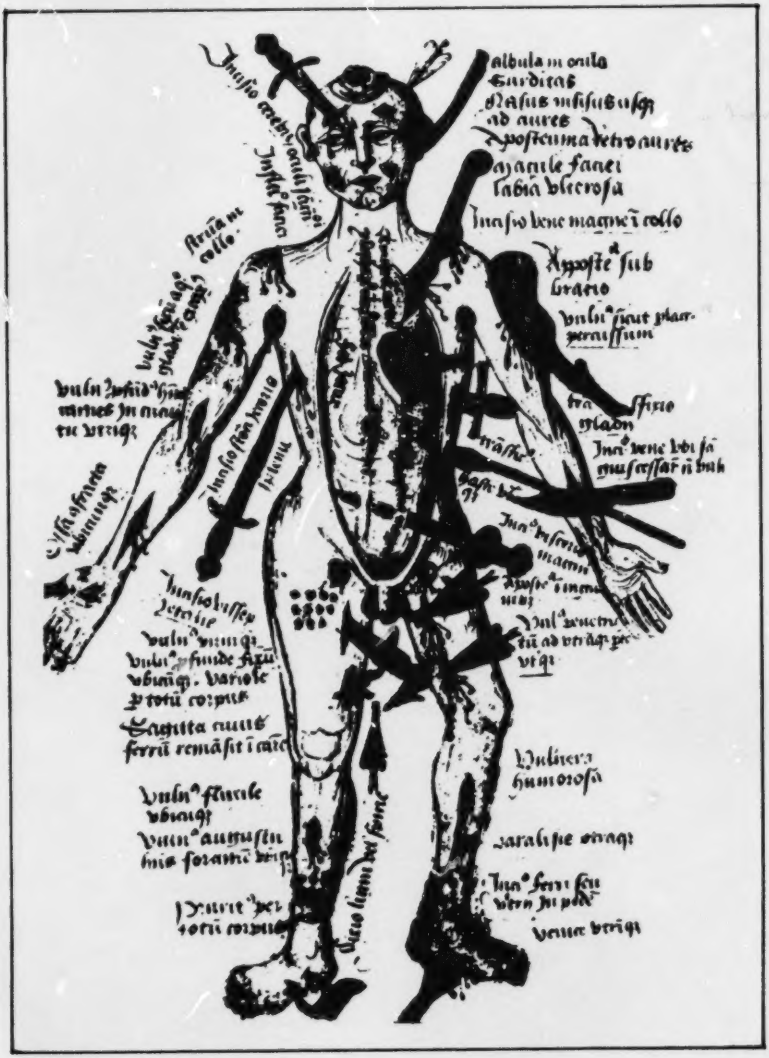
'WOUND-MAN' IN THE GIANT CODEX, ALSO FROM ABOUT 1400, PRESERVED IN THE DET KONGELIGE BIBLIOTEK AT COPENHAGEN. NO TRANSCRIPTION NOR TRANSLATION OF THE SURROUNDING TEXTS IS KNOWN...



MEDIEVAL GERMAN, CIRCA 1420, AS PORTRAYED IN A MANUSCRIPT PRESERVED IN THE WELLCOME INSTITUTE OF THE HISTORY OF MEDICINE LIBRARY AT LONDON. BELOW THIS, AN OUTLINE OF THE 'WOUND-MAN' FIGURE WITH TRANSLATION OF THE SURROUNDING EXPLANATORY TEXT, FROM A PAPER BY BOYD. H. HILL, jr. IN THE JOURNAL OF THE HISTORY OF MEDICINE, OCTOBER 1965.



GERMAN, CIRCA 1450. PHOTOGRAPHED IN THE UNIVERSITÄTSBIBLIOTHEK AT HEIDELBERG, WHERE THE ORIGINAL MANUSCRIPT IS PRESERVED.



FIFTEENTH CENTURY, PSEUDO-GALEN, ANATHOMIA, IN A MANUSCRIPT PRESERVED IN THE WELLCOME LIBRARY, LONDON.

GERMAN, CIRCA 1485. PHOTOGRAPHED IN THE BAYERISCHE STAATSBIBLIOTHEK AT MÜNCHEN, WHERE THE ORIGINAL MANUSCRIPT IS PRESERVED. A DESCRIPTION OF THIS 'WOUND-MAN' FIGURE IS CONTAINED IN THE APPENDED PHOTOCOPY OF A LEAF FROM THE MANUSCRIPT.

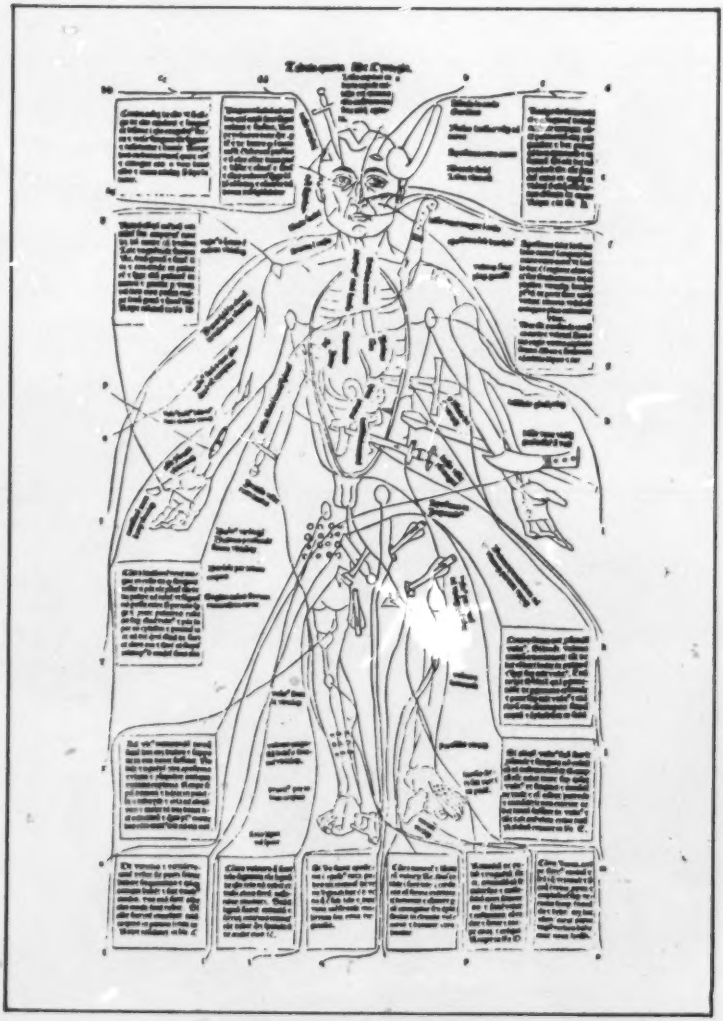


ILLUSTRATION IN JOHANNES DE KETHAM's Fasciculus medicinae, the first edition, Venice, 1491. IT IS BELIEVED THAT THE "BUMP" ON THE VERTEX OF THE HEAD MAY BE THE EARLIEST REPRESENTATION OF A GUNSHOT WOUND... THIS ILLUSTRATION WAS REDRAWN, APPEARING IN THE SECOND EDITION OF 1493 AS SHOWN IN THE FOLLOWING PICTURE, WITH MORE EMPHASIS ON THE SHOT FROM A GUN AS A WEAPON CAUSING A WOUND.

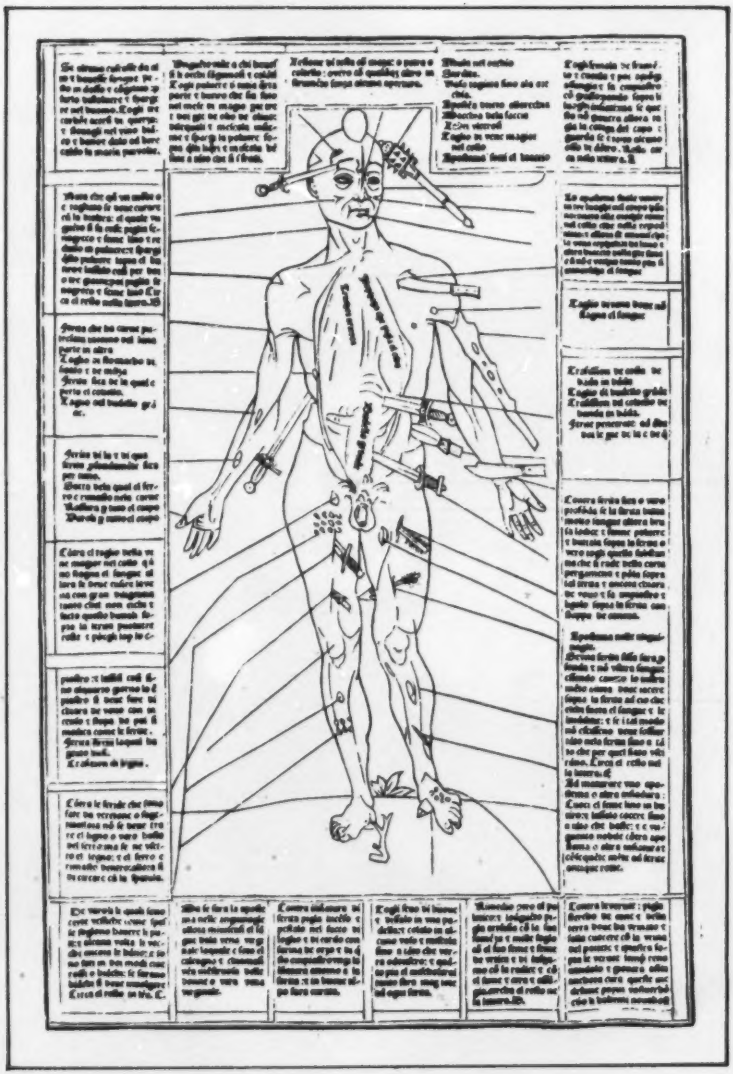


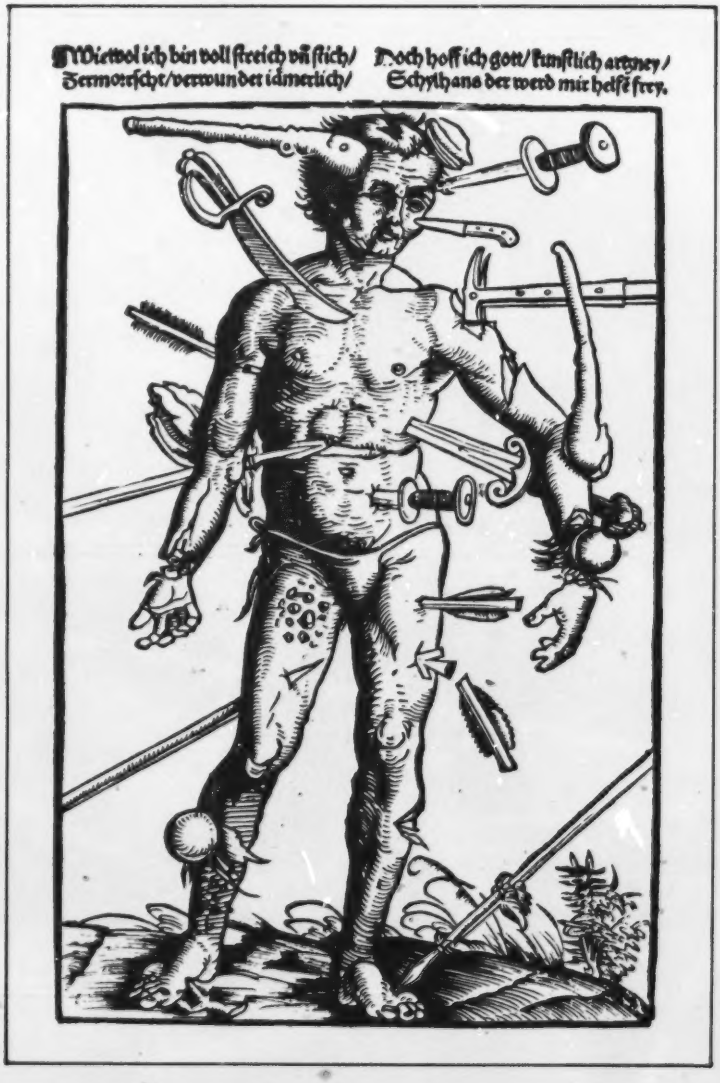
ILLUSTRATION IN JOHANNES DE KETHAM's Fasciculus medicinae, the first edition, Venice, 1491. IT IS BELIEVED THAT THE "BUMP" ON THE VERTEX OF THE HEAD MAY BE THE EARLIEST REPRESENTATION OF A GUNSHOT WOUND... THIS ILLUSTRATION WAS REDRAWN, APPEARING IN THE SECOND EDITION OF 1493 AS SHOWN IN THE FOLLOWING PICTURE, WITH MORE EMPHASIS ON THE SHOT FROM A GUN AS A WEAPON CAUSING A WOUND.

Dis ist das buch der Ci/
rurgia. Hantwirch
ung der wund artzny von
Hyerōimo brūschwig
Liber hic editus Argentorati, per Joannem
Grüningerum anno 1497. rarus, ac Typographiæ
incunabulis adnumerandus.

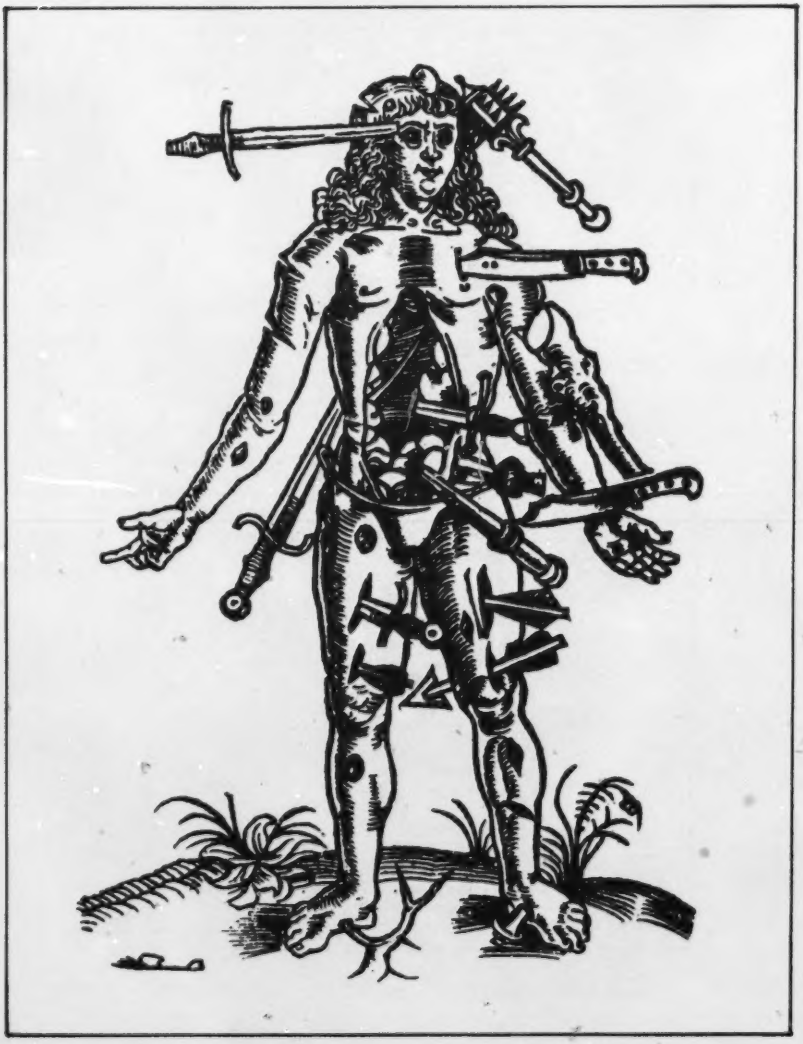
TITLE PAGE OF HIERONYMUS BRUNSCHWIG's Das ist das buch der Cirurgia Hantwirckung der wundartzny, Strassburg, 1497. "(THAT BOOK) CONTAINS THE FIRST DETAILED ACCOUNT OF GUNSHOT WOUNDS IN MEDICAL LITERATURE."

In diſem bierhlin find man gar
ain ſchöne vnderwyſing vñ leer wie ſich die Cy-
rurgici oder wundartz gegen ainē yeglichē ver-
wundten menſchen/ Es ſey mit ſchieſſen/howē/
ſtichen od ander zufelligē krāckheitē nach anzei
gūg der figur haltē ſöllē mit vyl bewārtē ſtückē.

TITLE PAGE OF A "WUNDARZNEI-BÜCHLEIN," CIRCA 1513,
IN THE PRIVATE COLLECTION OF THE LATE GUSTAV KLEIN.


Wiewol ich bin voll streich vñ stich/ Doch hoff ich gon/ kunstlich artzney/
Zermorscht/ verwundet iämerlich/ Schythans der werd mir helffē frey.

ILLUSRATION IN HANS VON GERSDORFF's Feldtbuch der Wundartzney, Strassburg 1517. BY THAT TIME THE REALITY OF WOUNDS FROM GUN-SHOT OR CANNON BALL HAD BECOME FIRMLY ESTABLISHED IN SUCH DRAWINGS, AND REMAINED SO IN ALL LATER ARTISTIC REPRESENTATIONS. THIS PICTURE IS REGARDED AS THE CLASSICAL 'WOUND-MAN' OF THE RENAISSANCE PERIOD.



'WOUND-MAN' IN "EYN GUT ARTZNEY." DUTCH, CIRCA 1525.

TRACTATVS PERVTILIS
ET COMPLETVS DE FRACTVRA
CRANEI, AB EXIMIO ARTIVM ET ME
dicinæ Doctore D. Magistro Iacobo Berengario Car
pensi publice Chirurgiam ordinariam in alma
Gymnasio Bononiensi docente editus.

Laurento Medices medicam mandauimus artem,
Vt Lauro merito condecoretur opus.

M D XXXV.

THE FAMOUS 'WOUND-HEAD' ON THE TITLE PAGE OF BERENGARIO DA CARPI's Tractatus perutilis..., VENETIIS, 1535. BELOW THIS, A MODERN DIAGRAM SHOWING THE LOCATION OF VARIOUS PENETRATING HEAD WOUNDS, AS REFLECTED ON THE SKULL, BASED UPON SURGICAL EXPERIENCES DURING THE ITALIAN CAMPAIGN OF WORLD WAR II.

THE
Method of Curing Wounds
made by Gun-ſhot.

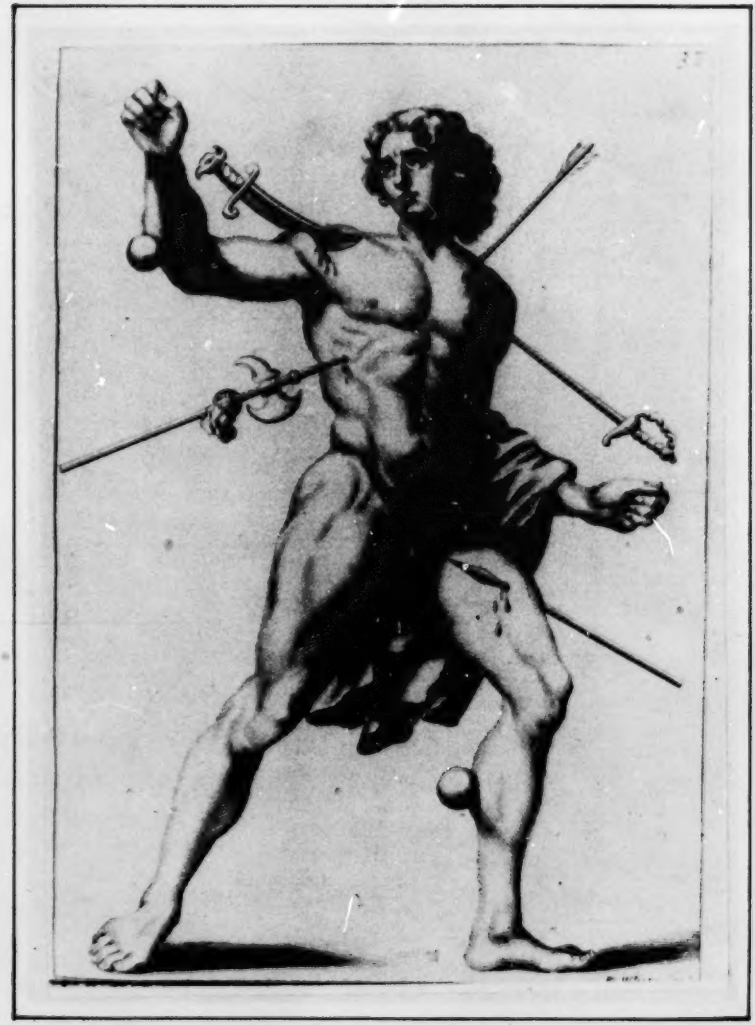
Alſo by Arrowes and Darts, with their Accidents.

Written by AMBROSE PARIS *of* Laval, *Counſellor and cheefe Chirurgeon to the French King.*

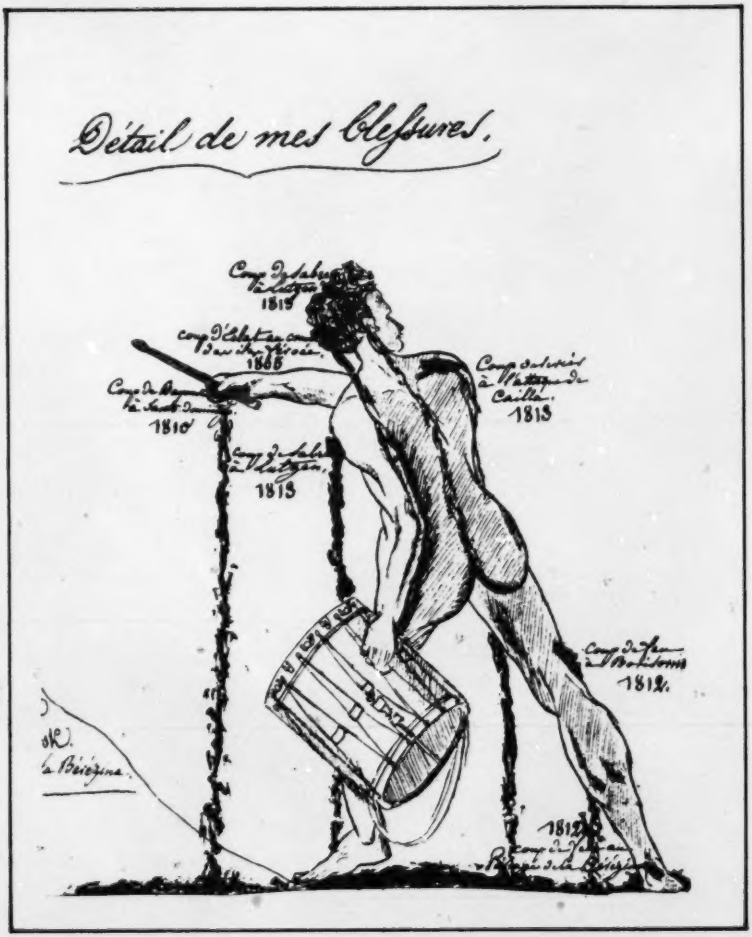
Faithfully done into Engliſh out of the French Copie, by *Walter Hamond* Chirurgeon.

London printed by [illegible] and are to be ſold in Barbicam. 1617.

TITLE PAGE OF AMBROISE PARÉ's TREATISE ON GUNSHOT WOUNDS, THE ENGLISH TRANSLATION BY WALTER HAMOND, LONDON, 1617. INTERESTINGLY, THE 'WOUND-MAN' FIGURE SHOWN HERE IS, IN FACT, A MIRROR-IMAGE OF THAT IN GERSDORFF's WORK OF A CENTURY EARLIER. IT WAS REPEATED IN LATER BOOKS BY PARÉ. THIS PHOTOGRAPH WAS MADE FROM THE ONLY EXTANT COPY OF THE BOOK, IN THE BODLEIAN LIBRARY, OXFORD, ENGLAND.



ENGRAVING BY R. WHITE, IN JOHN A. BROWNE's
A compleat discourse of wounds... London, 1678.
THIS IS THE LAST 'WOUND-MAN' KNOWN TO APPEAR IN
THE CLASSICAL MEDICAL LITERATURE OF THE WESTERN
WORLD...



A 'WOUND-MAN' OF THE NAPOLEONIC PERIOD. A REMARKABLE PEN-AND-INK SKETCH BY A FRENCH SOLDIER, ENTITLED "DETAIL OF MY WOUNDS." WOUNDS INCURRED IN A SUCCESSION OF BATTLES FROM 1805 TO 1813. WOUNDS OF THE HEAD BY SABRE AND BOMB; WOUNDS OF THE SHOULDERS BY SABRE AND CANNON SHOT; WOUND OF THE HAND BY BAYONET; WOUNDS OF THE THIGH AND LEG BY GUNSHOT.

WOUND MAN OF PRIMITIVE TIMES, WITH THE EARLIEST WEAPONS

It should be noted that flint-pointed arrows soon appeared, followed by metal-tipped arrows, and a gradual evolution of various cutting weapons from antiquity through the so-called dark ages to the first use of gunpowder as a propellent in the early part of the Fourteenth Century.

THE ULTIMATE WOUND MAN

OF TODAY

The victim of thermonuclear warfare with its accompanying radioactive fallout.

Original pencil drawings by Ms. Adrienne K. Giebel.

THE WOUND MAN FROM ANTIQUITY TO THE PRESENT TIME

1. Latin Manuscript, purported to be of the 14th Century. Original in the Universitni Knihovna at Prague.

2. Latin manuscript, ca 1400. Photocopy. Original in Bibliotheque Nationale, Paris. Early classical representation.

3. Giant Codex, ca 1400. Photocopy. In the Det Konelige Bibliotek, Copenhagen. Two versions of wound man.

4. Medieval German manuscript, ca 1420. Photocopy. From Wellcome Institute of History of Medicine, London.

5. Translations of #4, with outline of figure. From a paper by Boyd H. Hill, jr., in *Journal of the History of Medicine*, October 1965.

6. German manuscript, colored, ca 1450. Photocopy. Original in the Universitatsbibliothek, Heidelberg.

7. *Anathomia*, Pseudo-Galen manuscript, 15th Century. Photocopy. In the Wellcome Institute Library, London.

8. German manuscript, colored ca 1485. Photocopy. In the Bayeresche Staatsbibliothek, Munich, Germany.

9. Johannes de Ketham, *Fasciculus Medicinae*, 1491. From first edition, Venice. Photocopy of illustration. Possibly the earliest representation of a gunshot wound.

10. Johannes de Ketham, *Fasciculus Medicinae*, revised and redrawn. Second edition, 1493. Photocopy.

11. Hieronymus Brunschwig, *Das ist das buch der Cirurgia Hantwirkokung der wundartzny*, 1497, Strassburg. Title page photocopy. First detailed account of gunshot wounds.

12. *Wundarznei-buchlein*, ca 1513. In the private collection of the late Gustav Klein. Title page photocopy.

13. Hans von Gersdoff, *Feldtbuch der Wundartzney*, 1517, Strassburg. Photocopy illustration from the Renaissance Period.

14. "Eyn Gut Artzney," ca 1525. Dutch. Photocopy.

15. Berengario da Carpi, *Tractatus perutilis*, 1535, Venice. Title page photocopy.

16. Ambroise Paré, *Treatise on Gunshot Wounds*, 1617, London. Translated by Walter Hamond. Original in the Bodleian Library, Oxford. Title page photocopy.

17. John A. Browne, *A Compleat Discourse of Wounds*, 1678, London. Photocopy of an engraving by R. White. Last appearance in classical medical literature of the Western World of wound man image.

18. Pen and ink sketch, "Detail of my wounds," by a French soldier. Photocopy. From Napoleonic Period, 1805-1813.

19. Modern diagram showing the location of various penetrating head wounds, based upon surgical experiences during the Italian campaign of World War II.

20. Photograph of unit assigned in October 1945, to investigate the effects of the atomic bomb on the city of Nagasaki.

Sketch depicting modern figure affected by thermonuclear warfare.

Explaining the way he collected the series, Mr. Mestler commented

"The display of pictures representing the 'Wound Man Series' started with a search of the pertinent literature, and was expanded further by clues to the existence of medieval manuscripts containing such figures as those cited by the late Dr. Loren MacKinney in his book, *Medical Illustrations in Medieval Manuscripts*, London, 1965. With that guidance, letters were sent out to eight libraries in Western Europe--Copenhagen, Erlangen, Heidelburg, London, Munich, Oxford, Paris and Prague--asking for photographic copies of these figures from manuscripts in their holdings. Additional figures have been added at either end of the chronological sequence in the form of original drawings by Ms. Adrienne K. Giebel of Rochester, New York."

Thanks are extended to Ms. Lucinda H. Keister, of the History of Medicine Division of the National Library of Medicine, for her research on "wound man" images, or displays previous to this current one.

Mr. Gordon E. Mestler, of Brooklyn, was no stranger to the West Point Library in the years before the current exhibit was assembled. Gifts of books from his own collection usually coincided with visits to his son Gilbert Mestler, a 1975 graduate of the Military Academy. On these occasions he and the library staff laid plans for the exhibit which is now on display. As is usual with broad subjects, the major problems were those of choice of materials which might best characterize the history of war wounds and military medicine.

Mr. Mestler says:

> "My particular interest in assembling the exhibit materials was as a friend of the U.S. Military Academy Library--to use that facility as a means of sharing with others my pleasure in tracing the development of care of the war-wounded from ancient times to the present day. My interest in military medicine and surgery is an extension of a life-long interest in the history and philosophy of medicine and science."

About Mr. Mestler. . .

Gordon Mestler started his education in public schools in Rochester, N.Y. After studies at the University of Rochester, New York State Teachers College in Albany, Washington University in St. Louis, and New York University, he was engaged in a variety of careers. These included: chemist, physicist, and land surveyor. And there was time out "as a hobo", Mr. Mestler claims!

Then came more work in physical anthropology, human biology and endocrinology. He has written, or been a co-author of numerous papers in scientific and clinical literature, and two books. One, *Japanese Medical Literature*, was published in the *Bulletin of the Medical Library Association* as "A galaxy of old Japanese medical books," with "An index to Japanese medical literature of pre-Meiji times." Dawsons Bookshop, Los Angeles, California, 1964. An introduction and additions by Mr. Mestler was designed for *Disease and Destiny: A Bibliography of Medical References to the Famous* by Judson Bennett Gilbert, 1962. Dawsons of Pall Mall, London.

In 1957, Mr. Mestler was a guest lecturer at the Royal College of Surgeons, of England. In 1970, he was elected to membership in Sigma Xi, national honorary scientific society. He is now an Assistant Instructor in Anatomy at Downstate Medical Center, Brooklyn, a branch of the State University of New York.

Prehistory and Egyptian

Three-dimensional displays:

Rock--One of the earliest weapons. Human femur--early weapon.

Photographs

Skull pictured with fatal wound inflicted by flint arrowpoint. Patagonia, prehistoric.
Skull of *Australopithecus Africanus*. South Africa, perhaps three or four million years ago.
Wounds of skull of Egyptian soldier, ca 21 B.C. XI Dynasty.
Arrow wounds of Egyptian soldiers of the XI Dynasty. 21 B.C.
Middle Kingdom Egyptian battle axes, ca 2000 B.C.
Sword cuts in the skull, Egyptian soldiers of the First and Second Centuries.
Mace wounds in skull of an Egyptian soldier. XI Dynasty. ca. 21 B.C.

Monograph

Photocopy of papyrus. *Edwin Smith Surgical Papyrus*, Egyptian Middle Kingdom, XII Dynasty ca 2000 B.C. University of Chicago, 1930. Original in Rare Book Room at New York Academy of Medicine.

Greece and Rome

Homer, *The Iliad*. Photocopy of leaf from a first edition, Florence, 1488.
_____, *The Iliad*. Leaf from a palimpsest manuscript copy, believed written and drawn in Constantinople, 4th Century A.D. Original preserved in the Scansoni-Biblioteca Ambrosian, Milan.
Bas Relief Photograph. Herculaneum, First Century A.D., depicting Achilles treating Telephos.
Thucydides Olori filii de bello Peloponnesiaco. Photocopy Stephanus, 1564. Only eye-witness account of the plague of Athens. 430-425 B.C.
Nicholas Poussin, *The Plague of Athens*, photograph. Original painting in the collection of Sir Herbert Cook at Richmond, England.
Thucydides, *The Plague of Athens*, Greek Latin by Lucretius, English by Lord Bishop of Rochester, England. London, 1703.
Mignard, Pierre, *The Plague of Athens*, a painting by the French artist. Location of the original unknown.
Pompeiian mosaic photograph. Illustration from Vergil's Aenid, Book XII. Japyx treats the wound of Aeneas with dittamy collected by Venus on Mt. Ida, 2nd Century A.D.
Photograph of detail from Trajan's Column, Rome. First-aid treatment in the Roman Army, 113 A.D.

COL Martin A. Pfeotenhauer, Mr. Gordon Mestler, and Mr. Weiss

Greek Kylix depicting the wounded warrior Patroclus being bandaged by Achilles. (Replica). Original 5 B.C. in the Staatliche Museum, Berlin. Courtesy Dr. Max Geshwind.

Graphic displays for this exhibit have been acquired from a variety of sources, according to Mr. Mestler. Special acknowledgment is made of the following: the Wyeth Laboratories (Philadelphia) for framed color reproductions of Dean Cronwell's paintings of William Beaumont and Walter Reed; the Parke, Davis and Company, Detroit for color reproductions of Robert A. Thom's paintings of Ambroise Pare and of Walter Reed; Dr. Max Geshwind, of Queens, New York, for the loan of the replica of the Greek Kylix and of several books; and 2nd Lieutenant Gilbert E. Mestler, now at Fort Benning, Georgia, for the loan of a silver medal commemorating Walter Reed's discovery of the cause of yellow fever.

When asked to delineate the focus of the assembled show Mr. Mestler gave us the following information.

In his Aphorisms, Hippocrates (460-375 B. C.) is purported to have said,"He who would become a surgeon therefore should join the army and follow it." Indeed, it has been so through the centuries from that early time to the present day. Many of the world's great surgeons served in various armies and attended the sick and the wounded in countless battles; names whose very telling conjures up deeds of courage, the boldness of innovation, the devotion to a duty sometimes "above and beyond. . ." The work of those men exemplifies the best tradition of military concern for the war-wounded and the primary role of the military surgeon to maintain a fighting force in the condition of health necessary for its effective use.

The Chinese have a saying, "An army is maintained for a thousand days so that it can be used on a particular morning." The scourges of past times--when soldiers were struck down or died more from disease than from the effects of weapons--have given way, through army medical hygiene, research and sanitation, to the present time of comparative health. Battles can sometimes be won with the microscope and test tube. And yet, modern scientific technology has created the means for individual and mass destruction on a scale undreamt by humankind within living memory, far less by Achilles when he bound the wound of Patroclus in the Trojan war.

The current exhibit in the library of the United States Military Academy at West Point is intended to reveal something of the history of man's struggle against disease, injury and death as they affected the soldier, particularly in a time of war. Written records detailing such efforts take us back to the second millennium B. C., and the necessity of making logical guesses about the weapons and wounds of warfare among, say, Neolithic Man has been a tantalizing mental exercise, based as far as possible upon archeological evidence. A chronological sequence seems best to portray that evolution, using artistic representations wherever possible, chronicles and manuscripts of medieval times, printed books of the Renaissance and post-Renaissance periods, monographs, documents and periodical publications from the American Revolution through the Napoleonic wars, the battles of the Nineteenth Century, thence to World War I (the "great war") and, more recently, World War II, Korea and Vietnam.

Particular attention is given to the war-like expeditions of the ancient Egyptians, the Trojan war and the wars between Greek city-states, the Romans and their military conquests. The Dark Ages must remain unrecorded. A so-called "Wound Man" series presents some idea of the Middle Ages and the Renaissance

in Western Europe, with extensions both backward in time and forward to the present. There is a rich literature describing military medicine and surgery from the time of the Greeks and the Romans to the present, and it has been freely borrowed whenever possible to touch on the high points in the history of the military surgeon and his role in the care of the sick and of the war-wounded. . . . From the carnage, the death and destruction, and the exigencies of war, have often come the advances which promote the health and welfare of mankind. Occasional pictures found in the literature and deemed important or useful in telling the story of this exhibit, appear as vignettes scattered here and there throughout the display.

Recent contributions to the history and the literature of military medicine and surgery are displayed by means of reprints selected to provide an insight into the scope and content of such work.

From the stones and the clubs of ancient man to the atomic bomb of our own time, an attempt is made to trace some of the developments of weaponry, with the wounds to be expected as a result of the use of such devices. But a soldier sick from a fever or suffering from an acute attack, say, of duodenal ulcer or from the physiological breakdown of a vital organ or the victim of some aberrant disorder in his mental activities--none of which are "wounds" in the technical sense--nevertheless is made as equally ineffective as his comrade who is hit by a bullet or bomb fragment or cut down by sword or the victim of a blast injury or crushed by a motorized vehicle.

Prevention. . .recognition. . .transport. . .treatment. . . repair. . .rehabilitation. . . All are the concern of the military surgeon, both at war and in peace. It is said that Albert Einstein, when asked what would be the weapon of World War III, replied, "I cannot tell you that, but I can tell you what will be the weapon of World War IV--stones !"

And so, full circle. . . Thus, by means of artifacts, objects, pictures, books and the printed work, to exemplify the history and evolution of military medicine and surgery and the role of the military surgeon--that is the focus of the exhibit.

KEY TO ACRONYMS FOR SOURCES OF MONOGRAPHS DISPLAYED
(In descending order of representation)

MRLB = Medical Research Library of Brooklyn, New York.
NYAM = New York Academy of Medicine, New York, N. Y.
GEM = Gordon E. Mestler, Brooklyn, N. Y.
DMC = Downstate Medical Center, State University of New York, Brooklyn, N. Y.

Books not otherwise identified are from the USMA Library.

Classic Works in the Evolution of Military Medicine and Surgery

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Cutbush, Edward. *Observations on the Means of Preserving the Health of Soldiers and Sailors* with an appendix by Benjamin Rush, *Directions for Preserving the Health of Soldiers*. Lancaster, England, Dobson, 1778. NYAM

Title page facsimile from original published in Lancaster, England, Dobson, 1778.

Esmarch, Friedrich. *The First Dressing on the Battlefield*. Trans. Thomas Gay, London, Kiel, Schivers, 1870.

Gross, Samuel David. *A System of Surgery*. Vol. 1 of 2. Philadelphia, Blauchard and Lea, 1864.

Guthrie, George James. *On Gun-Shot Wounds*. London, Longman, Hurst, Rees, Orme and Brown, 1815. MRLB

Jones, John. *Plain Concise Practical Remarks on the Treatment of Wounds and Fractures*. New York, John Holt, 1775. MRLB

Larrey, Dominique Jean. *Memoires de Chirurgie Militaire et Campagnes*. Paris, J. Smith, 1812.

Le Dran, Henri Francois. *A Treatise or Reflections, Drawn from Practice on Gun-Shot Wounds*. Translated from French by Richard Millmott Hall. London, John Clarke, 1743. NYAM

Langenbeck, Bernhard von. *Chirurgie Beobacktungen aus dem Kriege*. Berlin, Hirschwald, 1874. NYAM

Ravaton, Hughus. *Cirurgie D'Armée on Traite´Des Plaies*. Paris, P. Didot le Jeune, 1768.

Rush, Benjamin. *Directions for Preserving the Health of Soldiers*. Philadelphia, Dunlap, 1808. NYAM

Stromeyer, George F. L. *Maximen der Kreigheil kunst*. Hanover, Germany, Hahan'sche Hoffuchhaudlung, 1861.

Swieten, Gerard. *The Diseases Incident to Armies with the Method of Cure*. Philadelphia, R. Bell, 1776. MRLB

Civil war soldier figures and portrait of Dr. G. J. Guthrie, courtesy of Second Lieutenant Gilbert E. Mestler.

Contributions of Army Doctors to
Medicine and Science

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Borden, William Cline. *The Use of the Roëntgen Ray By the Medical Department of the U. S. Army in the War with Spain.* Washington, D. C., Gov't Printing Office, 1900.

Henry, Robert S. *The Armed Forces Institute of Pathology: Its First Century.* Washington, D. C., Department of the Army, U. S. Gov't Printing Office, 1964.

Hume, Edgar Erskine. *Victories of Army Medicine.* Philadelphia, Lippincott, 1943. MRLB

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Hunter, John. F.R.S. *Blood, A Treatise on the Inflammation and Gunshot Wounds.* Philadelphia, Haswell, Barrington & Haswell, 1840. MRLB

Laveran, Alphonse. *Traité des Maladies et Épidémies des des Armées.* Paris, A. Masson, 1875. MRLB

Maisel, Albert Q. *Miracles of Military Medicine.* New York, Duell, Sloan & Pearce, 1943.

Morehouse, George R, Keen, William W. and Mitchell, Silas Weir. *Gunshot Wounds and Other Injuries of Nerves.* Philadelphia, Lippincott, 1864.

Munson, Edward Lyman. *The Soldier's Foot and the Military Shoe.* Menasha, Wisconsin, Banta, 1917. MRLB

Myer, Jesse S. *Life and Letters of Dr. William Beaumont.* Mosby, St. Louis, 1939.

"Courage and devotion beyond the call of duty. a . . record of official citations to medical Officers in the U. S. Armed Forces during World War II. Evansville, Indiana, Mead Johnson & Co., 1946.

Portraits of John Hunter, Lord Lister, S. W. Mitchell and of Harvey Cushing. Glass perfusion pump used by Alexis Carrel. Silver medal commemorating Sir Walter Reed, struck 1975, courtesy of Second Lieutenant G. E. Mestler.

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Medicine and Surgery

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3. Billroth, Theodor. *Historiche Studien über die Beurtheilung ubd Behandlung der Schusswunden. . .* Berlin, G. Reimer, 1859. NYAM

4. Billroth, Theodor. *Historical Studies on the Nature and Treatment of Gunshot Wounds From the 15th Century to the Present Time.* Translated for the Nathan Smith Medical Club, New Haven, Conn., 1933.

5. Brunner, Conrad. *Die Verwundeten in den Kriegen der alten Eidgenossenschaft* (Vol. II). Tubingen, H. Laupp'sche Buchlandlung, 1903.

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7. Churchill, Edward D. *Surgeon to Soldiers.* (WW II) Philadelphia, Lippincott, 1972.

8. Dunant, Jean Henri. *The Origin of the Red Cross.* Trans, Mrs. David H. Wright. Philadelphia, The John C. Winston Co., 1911.

9. Flikke, Julia, O.A. *U.S. Nurses in Action.* New York, Lippincott, New York, 1943. MRLB

10. Frölich, Franz Hermann. *Militär Medicin.* Braunschweig, Verlag von Freidrich Wreden, 1887. NYAM

11. Garrison, Fielding H. *Notes on the History of Military Medicine.* Washington, Assn. of Military Surgeons, 1922.

12. John Crerar Library, Chicago. *A Selected List of Books on Military Medicine and Surgery (at the time of World War I).* September 24, 1917. MRLB

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14. Lynch, Charles. *The Medical Department of the United States Army in the World War.* Vol. I of 15. (A bibliography of the evolution of the Medical Department.) Washington, U.S. Gov't Printing Office, 1921-1929. MRLB

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16. Toner, Joseph Meredith. *The Medical Men of the Revolution: With a Brief History of the Medical Department of the Continental Army.* Philadelphia, Collins, 1876. MRLB

17. Woodward, Joseph J. *Medical and Surgical History of the War of the Rebellion.* Part III of six vols. Washington, D.C., Gov't Printing Office, 1883. GEM

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INCLUDING RECENT CONTRIBUTIONS TO THE HISTORY OF
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8. Burbank, Charles B., Falor, William H., and Jones, Howard W. "Three hundred seventy-four acute war wounds of the Thorax," *Surgery*, vol. 21, no. 5, (May, 1947), pp. 730-738.
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11. Carey, Michael E. et al. "Follow-up study of 103 American soldiers who sustained a brain wound in Vietnam," *Journal of Neurosurgery*, vol. 41, no. 5 (Nov.1974)pp.542-549.
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13. Finck, Pierre A. "Ballistic and forensic pathological aspects of missile wounds: conversation between Anglo-American and metric-system units, " *Military Medicine*, vol. 130, no. 6 (June 1965).
14. Flowers, Hershel H. and Berlinger, Frederick G. "The psychological importance of snakes to the combat soldier,"

Military Medicine, vol. 138, no. 3 (March 1973), pp.144-145.

15. Fraser, Ian. "The Mitchiner Memorial Lecture: the doctor's debt to the soldier," *Journal of the Royal Army Medical Corps*, vol. 118, no. 2 (1972), pp. 1-16.
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25. Marshall, Mary Louise. "Medicine in the Confederacy, " *Bulletin of the Medical Library Association*, vol. 30, no. 4 (July 1942), pp. 279-299.
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29. Matsumo, Teruo, et al. "Combat surgery in communication zone: I. War wound and bacteriology (Preliminary report), *Military Medicine*, vol. 134, no. 9 (Sept. 1969), pp. 655-665.
30. Meirowsky, Arnold M. and Barnett, Joseph C. "Mobile neurosurgical team," *Annals of Surgery*, vol. 138, no. 2 (August 1958), pp. 178-185.
31. Modell, Walter. "Malaria and victory in Vietnam: the first battle against drug-resistant malaria is described," *Science*, vol. 162 (1968), pp. 1346-1352.

32. Pearse, Herman E., and Kingsley, Harry D. "Thermal burns from the atomic bomb, " *Surgery, gynecology and obstetrics*, vol. 98 (April 1954), pp. 385-394.
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34. Shephard, Glen H., and Rich, Norman M. "Treatment of the soft tissue war wound by the American military surgeon: a historical resume," *Military Medicine*, vol. 137, no. 7 (July 1972), pp. 264-266.
35. Silver, A. L. Leigh. "Gas warfare," *Journal of the Royal Army Medical Corps*, vol. 109, no. 4 (1963) , pp. 1-6.
36. Swain, Valentine A. J. "Franco-Prussian War, 1870-1871: voluntary aid for the wounded and sick," *British Medical Journal*, vol. 3 (August 1970), pp. 511-514.
37. Vogel, Emma E. "The history of physical therapists, United States Army." (4th Mary McMillan Lecture. Presented at the 44th Annual Conference of the American Physical Therapy Association, Miami Beach, Florida, July 5, 1967.) New York: American Physical Therapy Association.
38. Wangensteen, Owen H., and Wangensteen, Sarah D. "Military surgeons and surgery, old and new: an instructive chapter in management of contaminated wounds," *Surgery*, vol. 62, no. 6 (Dec. 1967), pp.1102-1124.
39. Wangensteen, Owen H., Wangensteen, Sarah D., and Klinger, Charles F. "Wound Management of Ambroise Paré and Dominique Larrey, great French military surgeons of the 16th and 19th centuries," *Bulletin of the History of Medicine*, vol. 46, no. 3 (May-June 1972), pp. 207-234.
40. Wooden, Allen C. "The wounds and weapons of the Revolutionary War from 1775 to 1783," *Delaware Medical Journal*, vol. 44, no. 3 (March 1972), pp. 59-65.

The manner in which material was gathered. . .

To define the boundaries of the subject matter on the history and evolution of military medicine and surgery, free use was made first of the applicable citations in Garrison and Morton's *A Medical Bibliography*, 3rd ed., 1970. A check was made of the appropriate references in the *Index-Catalogue of the Library of the Surgeon General's Office*, Series, 1-5, 1880-1961 "the world's greatest single collection of medical literature" located in the National Library of Medicine at Bethesda, Maryland. This library is known and revered by older workers as the "Army Medical Library."

Following this, further documents and monographs were found in the *Subject Catalog of the Library of the New York Academy of Medicine*, 1969, and its Supplement to 1974. From these basic sources it was possible to compile a working bibliography of important contributions to the literature, marking the milestones of progress in the history and evolution of military medicine and surgery.

This list was reviewed to identify outstanding books and journal articles. A final selection was made to provide a planned display in a chronological sequence interrupted wherever necessary for special purposes. The only other limitation was availability of display items. Original editions are used wherever possible , and facsimilies or later editions as seemed expedient. Photographs or photocopies or photostats of title pages or illustrations of text were used where these offprints fill a need for completeness.

The printed books and documents on display were obtained from several sources, including the collection in the Library of the U.S. Military Academy. Thanks go to the Medical Research Library of Brooklyn and Mr. Kenneth Moody, Director, the Library of the New York Academy of Medicine and Mr. Alfred Brandon, Librarian. Other libraries have given aid, notably the John Crerar Library at Chicago, Mr. J. Walter Shelton, Associate Librarian and the Duke University Medical Center Library at Durham, North Carolina and Mr. G.S.T. Cavanagh, Curator of the Trent Collection.

There is a wealth of material--historical, cultural, scientific, clinical and technical--which, in spite of admirable index sources such as those named above, can still be regarded as "buried" in various military medical journals. To become acquainted with their contents, one goes through every available issue of each such journal, literally page by page. The primary source used was the current American journal, *Military Medicine* (1935 to the present), previously called *Military Surgeon* (1907-1954) and before that the *Transactions* (or *Journal*) *Of the Association of Military Surgeons of the United States*, (1891-1906).

In addition, the following American journals were reviewed: *U.S. Army Medical Bulletin* (1922-1943), and the *United States Medical Bulletin* (1907-1949). To avoid a biased point of view, British publications, the *Journal of the Royal Army Medical Corps* (1903 to the present) and the *Journal of the Royal Naval Medical Service* (1915 to the present), the German *Deutsche Militaerarztliche Zeitschrift* (1872-1920); and the French *Recueil de memoires de medecine, de chirurgie et de pharmacie militaires* (1815-1882) were reviewed. Occasional issues of the Italian *Giornale de medicina militare* (1851-1937) and the Belgian *Archives médicales Belges* (1848-1937) were also examined. From the foregoing, a selected bibliography of hundreds of references to the literature of military medicine and surgery was compiled.

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D805 .U5B4 Beebe, Gilbert Wheeler, 1912-
Battle casualties; incidence, mortality, and logistic considerations, by Gilbert W. Beebe and Michael E. De Bakey. Springfield, Ill, Thomas (1952).

Bliss, Raymond Whitcomb, 1888-
Army medicine and the future. (In Army information digest, v. 3, June 1948, p. 3-6).

UH 400 B71 Bond, Paul Stanley, 1879-
Medical service in modern war, an exposition of the tactical functions of the Medical department in campaign . . .By P. S. Bond. . .and C. F. Martin. . .with an introduction by Major General M. W. Ireland. . .Menasha, Wis. George Banta publishing company (c1920).

UH 400 C27 Caspari-Rosen, Beate, ed.
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Darnall, Joseph Rogers, 1894-
Mediterranean medical cruise, February 1944. (In Military surgeon, April 1948, vol. 102, p. 251-265).

UH 400 D25 Darnall, Joseph Rogers, 1894-
What the citizen should know about wartime medicine (by) Joseph R. Darnall. . .and V. I. Cooper. Illustrations by André Jandot. New York, W. W. Norton & company, inc. (1942).

UG1 E78 DeWitt, Calvin
Notes on controlling hemorrhage in the field. (Essayson club of the Corps of engineers. Printed paper no. 4).

UH273.3 Eichheimer, G. F. (RARE BOOK ROOM: Medicine, military)
Umfassende Darstellung des Militair-Medizinal-Wesens in allen seinen Beziehungen mit Rücksicht auf die dermalingen Armeen-Verfassungen im Allgemeinen. . . Augsburg, J. Wolff, 1824. 2 v. tables (part fold.) 21 cm. Gumppenberg collection.

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UH 215 G 798 — Gt. Brit. *War office.*
Handbook of the medical services of foreign armies . . .London, Printed for H. M. Stationery off., by Harrison and sons, 1910.

UH 400 G 875 — Griffin, Alexander R.
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UH 400 H69 — Hoen, Maximilian, *ritter* von.
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UH 223 H 882 — Hume, Edgar Erskine, 1889-
Victories of army medicine; scientific accomplishments of the medical department of the United States army, by Edgar Erskine Hume. . .Philadelphia (etc.) J.B. Lippincott company (1943).

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614.2 K122 — Kahn, Samuel
. . .Malingering in the Army. (In The Medical Record, July 1943).

Knoblauch, Frederick J.
Medical department problems in cold weather operations. (In Military surgeon, April 1948, vol. 102, p. 283-285.)

UH 533 L 941 — Love, Albert Gallatin, 1877-
The Geneva Red cross movement; European and American influence on its development, a compilation, with notes, by Albert G. Love. . .Carlisle Barracks, Pa., Medical field service school, 1942.

UH 400 M 286 — Maisel, Albert Q..
Miracles of military medicine (by) Albert Q. Maisel. New York, Duell, Sloan and Pearce (1943).

UH 394 M 359 — Mason, Charles Field, 1864-1922.
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A study in troop leading and management of the sanitary service in war, by Major General John F. Morrison . . .and Lieutenant Colonel Edward L. Munson. . . Fort Leavenwoth, Kan., 1910.

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612 S556h2 — Shilling, Charles W.
The human machine; biological science for the armed services. (2d ed.) Annapolis, Md., United States Naval Institute (c1965, 1955).

D 807 .N4 .S75 — Stout, Thomas Duncan MacGregor, 1885-
War surgery and medicine. Wellington, N. Z., War History Branch, Dept. of Internal Affairs, 1954.

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U. S. Office of chief of air corps.
Air service medical manual. Washington, GPO, 1918.

UH 396 U66f 1942 — U. S. *Signal corps replacement training center, Fort Monmouth, N. J.*
First aid. Instructor's lesson plans. NSD-5. October 1942. Prepared in collaboration with the Training standards division. Fort Monmouth, Red Bank, N. J., Signal corps replacement training center (1942).

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The medical department of the United States Army in the world war. . . Prepared under the direction of M. W. Ireland. . .Washington, U. S. Govt. print. off. 1921-29.

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UG 447
V51
Vedder, Edward Bright, 1878-
The medical aspects of chemical warfare, by Edward B. Vedder. . . with a chapter on the Naval medical aspects of chemical warfare, by Duncan C. Walton. . .Baltimore, Williams and Wilkins company, 1925.

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Walker, Allan S.
Clinical problems of war. Canberra, Australian War Memorial (1952).

UH 347
.L3
.R52
Richardson, Robert G.
Larrey: surgeon to Napoleon's Imperial Guard (by) Robert G. Richardson. (London) Murray (1974).

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.M26
.B5
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Wellington's surgeon general, Sir James McGrigor/ Richard L. Blanco. Durham, N. C.: Duke University Press, 1974.

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A Note on the History of Medical Illustration . . .

In the same sense that human art is the basis of human history as seen in the prehistoric animals of Altamira and Lascaux, or the drawings of Leonardo, so medical history is defined and illustrated by the ancients who bound up the wounds of Greek warriors or Egyptian soldiers as seen in manuscript and mural.

Libraries have always contained illustrated materials, and the earliest libraries, on the evidence which still exists, indicates that medical illustration preceded medical writing. Herrlinger says that the ruins of the great library at Alexandria in Egypt, washed up on the shores of the Mediterranean many miles away, contained drawings of the human body which were remarkably practical. Most of the drawings used by succeeding generations of Greek and Roman practitioners were based on these very early sketches of surgical and anatomical processes. Medical illustration reflected the temper of the cultures from which it emerged, but until well into the Middle Ages, it was consistent with the Egyptian and Roman drawings of the human body.

Two approaches to pictures intended to teach medical procedures are detailed and illustrated in Herrlinger. He says that the medieval mind accepted both schematic and naturalistic illustration. Evidently, depiction of the parts of the body in a systematic arrangement was more typical of the epoch than naturalism.

Probably quantitative thinking first emerged during the Renaissance, in physics and biology, in theories of art and philosophy. But Herrlinger warns that this idea applied only in a general way. He found the beginnings of quantitative thinking in Galen, though "these remained dormant during antiquity." [1] The great analytical drawings of the human body, such as those by Leonardo da Vinci, were a product of the Renaissance artists.

The real breakthrough occurred after 1530, when Vesalius and Leonardo contributed drawings whose naturalism still serves to illustrate the schema of the human anatomy. The turning point of the 16th Century was seen as the time when the plastic arts began to represent human actions realistically and naturalistically, and foretold the importance of surgical operations.

This comment could well have been made about our own age. We can command a performance of a variety of surgical operations on television cassette; in microform, or on film, almost at will. In the 20th Century, the function of the

medical illustrator has not changed, but methods have undergone a radical metamorphosis, and most of us have come to take for granted the great advances in the medical graphics even of the last decade.

Canadian and American medical illustrators banded together in 1945 to form a professional association of thirty members. By 1963, membership had grown to nearly 200, and now a code of ethics, standards, and school programs are part of the association activities. The faculty of medicine of the University of Toronto feels that medical illustration is useful primarily to teach. It is also used in reporting, as a graphic record of scientific research. The various styles of illustration are cited as: realistic; diagrammatic, and schematic.

Today the camera is preferred for making realistic duplications, but the design of the human body, its vulnerable parts and the measures doctors must take, though far more sophisticated and much better understood now, are based on the same principles, the dedication of talent, and the same feeling for service which inspired military medicine since prehistoric times.

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